

CLAIMS

1. An infra-red reflecting layered structure, said layered structure comprising
 - 5 - a transparent substrate layer;
 - a first metal oxide layer;
 - a first silver containing layer;
 - a second metal oxide layer;
 - a second silver containing layer;
 - 10 - a third metal oxide layer;said first, second and third metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm and said layered structure laminated on glass having a visual light transmittance (VLT) higher than 70 % and a solar heat gain coefficient (SHGC) lower than 0.44.
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2. A layered structure according to claim 1, whereby said layered structure has a light to solar gain ratio (LSG ratio) higher than 1.60.
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3. A layered structure according to claim 1 or claim 2, whereby said metal oxide layer comprises TiO_2 .
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4. A layered structure according to claim 3, whereby said TiO_2 is mainly composed of rutile phase.
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5. A layered structure according to any one of the preceding claims, whereby said layered structure comprises at least one intermediate layer, said intermediate layer being located between a silver containing layer and a metal oxide layer and/or between a metal oxide layer and a silver containing layer.

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6. A layered structure according to claim 5, whereby said intermediate layer comprises gold.
7. A layered structure according to any one of the preceding claims, whereby said first and second silver containing layer have a thickness between 10 and 25 nm.
8. A layered structure according to any one of the preceding claims, whereby said first, second and third metal oxide layer have a thickness between 25 and 70 nm.
9. Use of a layered structure according to any one of claims 1 to 8 as a transparent heat-mirror.
10. 10. A method of reducing the number of silver containing layers in an infra-red reflecting layered structure, said method comprising the following steps :
 - providing a transparent substrate layer;
 - depositing upon said substrate layer a first metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm ;
 - depositing upon said first metal oxide layer a first silver containing layer;
 - depositing upon said first silver containing layer a second metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm ;
 - depositing upon said second metal oxide layer a second silver containing layer;
 - depositing upon said second silver containing layer a third metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm .
11. A method of improving the visual light transmittance of an infra-red reflecting layered structure, said method comprising the following steps :

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- providing a transparent substrate layer;
- depositing upon said substrate layer a first metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm ;
- 5 - depositing upon said first metal oxide layer a first silver containing layer;
- depositing upon said first silver containing layer a second metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm ;
- 10 - depositing upon said second metal oxide layer a second silver containing layer;
- depositing upon said second silver containing layer a third metal oxide layer having a refractive index of at least 2.40 at a wavelength of 500 nm .

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